AMENDMENTS TO THE CLAIMS:

1. (currently amended) A wound treatment apparatus comprising:

a tank;

~~a water feed pipe extending to said tank;~~

at least one electromechanical transducer in pressure-wave transmitting relationship to said tank for generating ultrasonic pressure waves in water contained in said tank; and

an electrical signal generator operatively connected to said transducer for energizing same with an alternating electrical signal ~~that is partially rectified~~ effective to generate stable cavitation in the water contained in said tank.

2. (currently amended) The apparatus defined in claim 1, further comprising a water feed pipe extending to said tank and an injector disposed along said feed pipe proximate to a barrier thereof.

3. (original) The apparatus defined in claim 2 wherein said injector is a venturi injector.

4. (original) The apparatus defined in claim 2, further comprising a valve operatively connected to said injector on an upstream side thereof for introducing air into a water stream flowing along said feed pipe.

5. (original) The apparatus defined in claim 2 wherein said injector is coupled to a disinfectant reservoir and a valve for introducing a disinfectant into a water stream flowing along said feed pipe.

6. (original) The apparatus defined in claim 2 wherein said barrier is a wall of said pipe, said pipe having at least one elbow-type bend.

7. (currently amended) The apparatus defined in claim [[1]] 27, further comprising means operatively coupled to said signal generator and said tank for determining a percentage or proportion of rectification of said electrical signal to obviate or avoid inertial or transient cavitation.

8. (original) The apparatus defined in claim 7 wherein said means for determining includes a microprocessor.

9. (currently amended) The apparatus defined in claim [[1]] 27, further comprising a microprocessor and a sensor, said sensor being in pressure-wave transmitting relationship with water in said tank for detecting inertial or transient cavitation in the water in said tank, said microprocessor being operatively connected to said signal generator for iteratively operating said signal generator during a calibration procedure to produce a series of ultrasonic pressure waves of increasing proportion of rectified waves to full waves, said microprocessor being operatively coupled to said sensor for determining a rectified/full wave duty cycle at which inertial or transient cavitation disappears, said microprocessor being programmed to operate said signal generator to produce an electrical energization signal with said duty cycle.

10. (original) The apparatus defined in claim 9 wherein said sensor is a PZT probe.

11. (original) The apparatus defined in claim 10 wherein said PZT probe is disposed in line with a face of said transducer within said tank.

12. (currently amended) The apparatus defined in claim [[1]] 27, further comprising means operatively coupled to said signal generator for operating same to produce an unrectified ultrasonic signal to induce transient cavitation in a predetermined mixture of water and disinfectant in said tank.

13. (original) The apparatus defined in claim 12, further comprising means operatively coupled to said signal generator for sweeping a frequency of an electrical excitation signal produced by said signal generator.

14. (currently amended) The apparatus defined in claim 1, further comprising a water feed pipe extending to said tank and means operatively connected to said feed pipe for diffusing air into a water stream flowing through said pipe to said tank.

15. (original) The apparatus defined in claim 14 wherein said means for diffusing includes a venturi injector.

16. (original) The apparatus defined in claim 1, further comprising means operatively coupled to said signal generator and said tank for detecting and signaling the presence of stable and inertial or transient cavitation generated in water in said tank owing to energization of said transducer.

17. (original) The apparatus defined in claim 16 wherein said means for detecting includes a microprocessor, further comprising a display operatively connected to said microprocessor for communicating to an operator a status of cavitation in said tank.

18. (original) The apparatus defined in claim 16 wherein said tank is one of two tanks communicating with one another via a barrier.

19. (previously presented) An ultrasonic treatment method comprising:

feeding water to a tank;

dissolving air in said water;

disposing at least a portion of a living organism in the aerated water; and

thereafter ultrasonically generating stable vibrating bubbles in said aerated water, the generating of said stable vibrating bubbles including energizing a transducer with periods of full-wave compression and rarefaction cycles alternating with periods of

rectified-wave compression pressure cycles sufficient to suppress inertial or transient cavitation for a predetermined interval.

20. (original) The method defined in claim 19, further comprising automatically monitoring the aerated water in said tank to detect inertial or transient cavitation.

21. (original) The method defined in claim 20, further comprising displaying a status of inertial of transient cavitation in the aerated water in said tank.

22. (original) The method defined in claim 19, further comprising:

removing the organism from said tank;

thereafter delivering disinfectant and water to said tank; and

thereafter inducing ultrasonic transient cavitation in the water and disinfectant in said tank.

23. (original) The method defined in claim 22 wherein the inducing of said ultrasonic transient cavitation includes generating full-wave compression and rarefaction cycles at an ultrasonic frequency in the water and disinfectant in said tank.

24. (original) The method defined in claim 23 wherein the inducing of said ultrasonic transient cavitation further includes sweeping said frequency.

25. (previously presented) The method defined in claim 19 wherein the periods of rectified-wave compression pressure cycles are less than about 40% of the total periods of full-wave compression and rarefaction cycles and periods of rectified-wave compression pressure cycles.

26. (original) The method defined in claim 19 wherein the dissolving of air in the water includes using a venturi injector disposed proximate to a bend in a feed pipe extending to said tank.

27. (new) The apparatus defined in claim 1 wherein said electrical signal generator is operatively connected to said transducer for energizing same with an alternating electrical signal that is partially rectified.